

### **REMARKS**

The Final Office Action of April 8, 2005 has been carefully reviewed and all matters presented in the Office Action are addressed herein.

In the Office Action, claims 2, 3, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Larson et al (U.S. Patent No. 5,425,968). Claim 11 is also rejected under 35 U.S.C. 102(b) as being anticipated by Larson '968. Applicants respectfully traverse these rejections.

The present invention is directed to the use of a plural component apparatus, in which numerous coating compositions having different properties can be formulated and applied without changing the components of the plural component apparatus. By using a known plural component apparatus having the capability of mixing at least three components in which you can vary the mixing of the components for applying a dedicated coating composition to a substrate, such as by varying the ratios of the components, the many needs of the industry can be met without "breaking down" the plural component apparatus used for the coating compositions and/or switching out the components for the coating compositions.

More particularly, utilizing a plural component system having three components in which two like components (for example, two hardeners), each having a different reactivity, would be utilized along with one shared component (for example a resin) which would allow for the preparation of various coating compositions.

For example, the plural apparatus of the present application could have one shared resin and two like hardeners each having a different reactivity. Then, if an application required a fast cure time for the coating material, the shared binder component would only be mixed with the highly reactive (fast) hardener (non-like component) and immediately applied to the substrate. (i.e. only two of the three

components would be mixed). Then, if the next application required a cure rate that was slightly slower than the first application for the coating material the hardener would be a mixture of the highly reactive hardener component and the less reactive (slow) hardener component along with the binder. If the next application required a slow cure rate for the coating material, then the binder would only be mixed with the slow hardener. According to the present invention, such applications (and many others besides) would be performed using the same initial components that were loaded on the plural component apparatus. Because the process allows for various mixtures of the coating compositions, there is no need to switch out the individual starting components.

This is even better explained with the enclosed dataleaflets Sikkens Plural Component, Value Mix, and Technical Data Sheet Autoclear PC. Value Mix shows the plural component apparatus which base can hold three or more cans comprising the components necessary to formulate a coating composition. The plural component apparatus can measure and mix the required coating composition. With the attached spray gun, the coating composition is applied on a substrate. The cans hold Sikkens Plural Component Paint Products. For example, to prepare various clearcoats, three cans are mounted on the base of the plural component apparatus. These cans comprise Autoclear PC (a first resin component A), Autoclear PC Production (a second resin component C), and Autoclear PC Hardener (a hardener component B). The mixture of Autoclear PC and Autoclear Hardener provides a coating composition for larger jobs that require premium appearance. The mixture of Autoclear PC Production and Autoclear Hardener is for smaller jobs or jobs that require faster bake times. Even a "cocktail" of Autoclear PC and Autoclear Production for a combination of speed and appearance can be used. These changes in mixtures are established by turning dials on the control panel of the plural component apparatus to vary which of the starting components are being mixed and at what ratio such components are being mixed.

Larson '968 relates to a method and apparatus which utilizes a volumetric proportioning device in order to apply a single coating composition having more than one component onto a substrate. More particularly, Larson describes: (a) containers of coating components, connected to (b) a volumetric proportioning device. The

volumetric proportioning device may be set in order to provide a controlled mix ratio of the starting coating components (a). One the coating components are proportioned, they are either mixed (in a static mixer, for example) and then applied onto a substrate or they are separately applied to the substrate, in the mix ratio, in proximity such that homogenous mixing of the droplets occur in the air and/or on the substrate. As discussed in detail in the specification of Larson, the components are mixed only immediately prior to when spraying occurs. Because of the very short time period between when the components are mixed and when the resulting coating composition is applied to a substrate, the Larson method and apparatus may be used to produce coatings that have only a very short pot life and can be used to combine components having functional groups wherein the reaction between such functional groups was thought to be too fast for practical or commercial use (for example, two package isocyanate systems).

In contrast to the presently claimed invention, there is no teaching, suggestion, or disclosure in Larson that more than one coating composition can be produced and applied to one or more substrates during a particular use of the apparatus using the original starting coating components.

At col. 9, lines 3-13 of the specification, Larson notes that it is not necessary to use solvents to purge the equipment between uses if the user is applying coating compositions of one color and color changes are not required between applications. It is asserted in the office action that this statement demonstrates that the apparatus of Larson does not have to be disassembled between uses. Applicants respectfully disagree. The fact that a solvent is not employed to clean out the equipment in this particular situation does not mean that the starting components are not switched (i.e., which would require the containers for the first set of starting components to be *disassembled* from the apparatus and replaced with containers of a new group of starting components) in order to change the type of coating being produced. This statement merely suggests that when coatings of the same color are being produced, it is not necessary to clean the equipment because there would not be any cross

contamination of colors (as opposed to when the coatings are different colors, in which case if residual of the first color remains in the equipment, it could combine with the second color and would thus effect (e.g., modify) the second colored coating - an important detail when you are repairing a car and trying to match an existing paint color).

At col. 3, lines 45-49, Larson also notes that a separate cylinder and piston may be used for each component, although various configurations of pistons and cylinders, and their cooperation, are available to the skilled artisan. It is asserted in the office action that, by this statement, Larson teaches that the same apparatus can be used for applying the next coating without disassembling the apparatus. Again, Applicants respectfully disagree.

The mere fact that different configurations of pistons and cylinders and their cooperation are possible in the proportioning device of Larson does not teach, suggest or disclose to a skilled artisan that a single group of starting components can be used with the proportioning device such that different coating compositions can be formed without having to change one or more of the starting components (and thereby disassembling the apparatus).

To anticipate a claim under 102(b), the single prior art source must contain all of the elements of the claims, arranged as in the claim. This Larson clearly does not do. Thus, the presently claimed invention is considered novel over Larson.

Also in the Office Action, claims 3-8 are rejected under 103(a) as being unpatentable over Larson et al (U.S. Patent No. 5,425,968) in view of Vu (U.S. Patent No. 4,710,560). Applicants respectfully traverse this rejection.

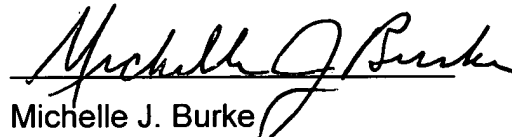
Vu is cited as teaching that by using an aromatic and aliphatic diisocyanate having different reactivity toward OH-groups, a polymer with predetermined structure and properties can be achieved. Even if, in arguendo, this is the case, Vu still does not

overcome the deficiencies of Larson as set forth above. More specifically, neither Larson nor Vu teach, suggest, or disclose a method of using a set of starting components in a plural component apparatus, in which such starting components can be utilized to provide different coating compositions merely by changing the in the plural component apparatus the ratios of same starting components, all while the components remain in the fixed in the plural component apparatus.

Thus, the present invention is considered both novel and non-obvious over the cited prior art. Applicants respectfully request reconsideration of the rejected claims and a finding that the claims are in condition for immediate allowance.

Respectfully submitted,

FORBES et al.

A handwritten signature in black ink, appearing to read "Michelle J. Burke", written over a horizontal line.

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## AUTOCLEAR PC

### DESCRIPTION:

Autoclear PC is a series of clearcoat products that is national rule compliant when combined with Sikkens basecoats. An acrylic urethane clearcoat system, for use with three pump Plural Component equipment, especially Graco's ValueMix™ equipment. Because of the patented packaging and equipment, very accurate product blending and automated mixing is obtainable with very little waste. This equipment allows the technician to choose within seconds, a high gloss clearcoat, an ultra productive clearcoat or something in between.

### PRODUCT & ADDITIVES:

**PRODUCTS:** Autoclear PC.  
Autoclear PC Production.

**HARDENER:** Autoclear PC Hardener.

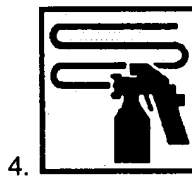
**BASIC RAW MATERIALS:** Autoclear PC: hydroxyl acrylic resins  
Autoclear PC Production: hydroxyl acrylic resins  
Autoclear PC Hardener: polyisocyanate resins

### APPLICATION:



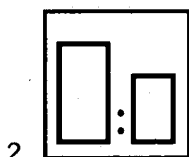
1.

Contains acrylic resins and other ingredients. When mixed, also contains isocyanates.



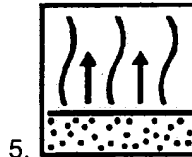
4.

2 x 1  
HVLP Pressure feed  
.030"-.039" (0.8 - 1.0 mm)  
max 10 psi (max 0.8 bar)



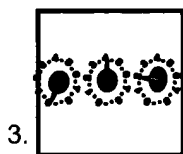
2.

Mixing ratio - 2:1  
Autoclear PC or  
Autoclear PC Production  
with  
Autoclear PC Hardener



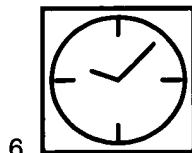
5.

1-5 minutes at 70°F (20°C)



3.

ValueMix settings:  
AC PC : PC Hard : AC PC Prod  
2 : 1 : 0 - Full respray,  
1 : 1 : 1 - Average repair  
0 : 1 : 2 - Small repairs



6.

Dry time @ 140° (60°C):  
AC PC : PC Hard : AC PC Prod  
2 : 1 : 0 - 30 minutes  
1 : 1 : 1 - 20 minutes  
0 : 1 : 2 - 10 minutes

## AUTOCLEAR PC

### SUITABLE SURFACES:

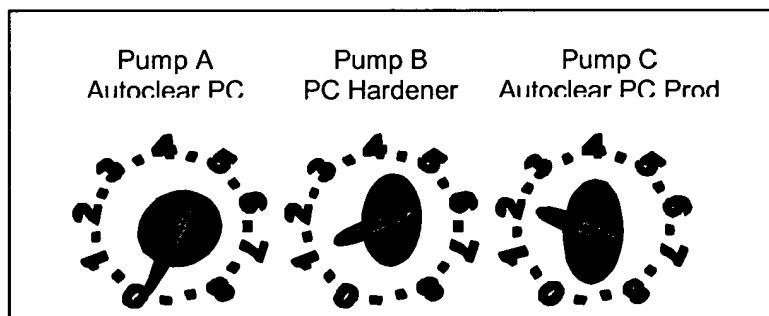
- Sikkens Autobase® and Autobase® Plus colors: after a flash-off time of 15-20 minutes.
- Autocryl solid colors: after a flash off time of 15 minutes
- Existing finish, in the case of spot repair and blending. See TDS "Spot Repairs with Autobase" and TDS "Spot Repair with Autocryl". There is also blending information in this information sheet.

### MIXING RATIO:

Set the Ratio Dials on the ValueMix equipment to:

- |                  |   |
|------------------|---|
| <b>Mixture A</b> | 2 parts Autoclear PC<br>1 part Autoclear PC Hardener                                  |
| <b>Mixture B</b> | 1 part Autoclear PC<br>1 part Autoclear PC Hardener<br>1 part Autoclear PC Production |
| <b>Mixture C</b> | 2 parts Autoclear PC Production<br>1 part Autoclear PC Hardener                       |

Example for **Mixture C**, ten-minute package setup:



### NOTE:

On the ValueMix equipment, while facing the front panel;  
Autoclear PC should be delivered through pump A (left pump).  
Autoclear PC Hardener should be delivered through pump B (middle pump).  
Autoclear PC Production should be delivered through pump C (right pump).

Therefore as an example, if you want to spray mixture C:  
On the control panel, set the dial for pump "A" at # 0, (this renders pump "A" inoperative) and the dial for pump "B" at # 1. Set the dial for pump "C" at # 2

### NOTE:

For a comprehensive description on the use of the ValueMix proportioning equipment, please see the User Guide Manual for Sikkens Plural Products and The Graco ValueMix system.



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## AUTOCLEAR PC

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### SPRAY GUN & PRESSURE:

	Fluid Tip	Spraying Pressure
Pressure Feed HVLP	0.030" - 0.039" (0.8 - 1.0 mm)	Max. 10 psi (max. 0.8 bar)
Pressure Feed High pressure	0.030" - 0.043" (0.8 - 1.1 mm)	40-50 psi (3-4 bar)

### ValueMix Pump pressure:

Pump A - 80 – 90 psi (right gauge, front panel)  
Pump B - 70 – 80 psi (middle gauge, inside panel)  
Pump C - 80 – 90 psi (right gauge, inside panel)

**Fluid Flow Rate:** 10 to 12 fluid ounces per minute

**POT LIFE:** Mixture A, 4 hours at 70°F (20°C)  
Mixture B, 2 hours at 70°F (20°C)  
Mixture C, 1 hour at 70°F (20°C)

**NOTE:** When using this product in plural component equipment, pot life is not an issue. But still follow the rinsing procedure after each application.

**SPRAYING  
VISCOSITY:** 13-14 seconds, DIN cup #4, 70°F (20°C)

**APPLICATION  
METHOD:** Apply 2 single wet coats. If heavy sanding and polishing is required, a third coat may be applied after the stated flash off time.

**BLENDING NOTE:** If it is necessary to fade out the clear (sail panel blends) follow the preparation as described in the TDS, Spot repairs with Autobase.  
  
Apply 2 coats of Autoclear PC, extend the second coat application into the sail panel. Allow 2-5 minutes after this last coat and spray pure Sikkens Reducer SRA 7.0, using a conventional spray gun. Apply one, up to two medium thin coats. With approximately 15 seconds flash time between coats. (Please see TDS on Sikkens Reducer SRA 7.0)

**FLASH TIME:** Mixture A 3-7 minutes at 70°F (20°C)  
Mixture B 1-5 minutes at 70°F (20°C)  
Mixture C 0 minutes at 70°F (20°C)

**NOTE FOR  
PLASTIC PARTS:** Use the quick dispense for plastic parts: Add 10% Elast-O-Actif to the ready to spray mixture. Use the # 14 measuring stick.





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## AUTOCLEAR PC

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### DRYING TIMES:

Below is a table showing the drying times of Autoclear PC. The air dry times stated may vary with insufficient airflow.

Metal Temp.	Drying	Mixture A	Mixture B	Mixture C
70°F(20°C)	Dust Free	1 hr	35 min	30 min
	Dry	10 hr	7 hr	4 hr
140°F(60°C)	Dust Free	20 min	15 min	7 min
	Dry	30 min	20 min	10 min

### NOTE:

Immediately after the last coat of Autoclear PC, it may be baked.  
In all cases minimize flash off times before bake.

### RECOATABILITY:

The Autoclear PC Product Series can be re-coated with itself at any stage. Sanding will become necessary after 12 hours.

### FILM THICKNESS:

1.0-1.5 mils (25-37 µm) per coat

### NOTE:

When heavy color sanding and rubbing is required, it may be necessary to apply one extra coat of Autoclear PC.

### COVER RATE:

Approximately 180 sq.ft/gallon of sprayable paint at a film thickness of 3.0 mils (37µm)

### DECALS:

Decals can be applied after 48 hours at 70°F (20°C)

### LETTERING:

Enamel striping and lettering on Autoclear PC must be applied within 48 hours for good adhesion. After this time, scuff with a gray scuffing pad.

### CLEANING OF EQUIPMENT:

Between each job, flush the mix manifold and static mixing system (including the spray gun) for a minimum of 20 seconds with Sikkens Cleaning Solvent 790. Then remove the air cap for cleaning and wipe the fluid tip with a damp solvent rag. At the end of the working day, remove the spray gun for strip down and thorough cleaning. Replace the gun

### NOTE:

For a comprehensive description on the use of the ValueMix proportioning equipment, please see the User Guide Manual for Sikkens Plural Products and The Graco ValueMix system.



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## AUTOCLEAR PC

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### STOCK KEEPING:

**COLOR:** Clear

**CONTAINER  
SIZE:**

Autoclear PC.	Item # 1165	5 gallon (18.8 lt)
Autoclear PC Production.	Item # 1166	5 gallon (18.8 lt)
Autoclear PC Hardener.	Item # 4165	5 gallon (18.8 lt)

**SHELF LIFE:** One year If stored unopened at room temperature  
Autoclear PC:  
Autoclear PC Production:  
6 months if stored unopened at room temperature  
Autoclear PC Hardener:

### SAFETY ASPECTS:

**READY TO  
SPRAY VOC:**

When proportioned correctly through the ValueMix Plural Component equipment. At a ratio of 2 parts clear to 1 part hardener, the Autoclear PC series of products yields a ready to spray VOC content of:

4.0 lb/gal 490 g/liter

**NOTICE:**

Do not handle until the Material Safety Data Sheets have been read and understood. Regulations require that all employees be trained on the Material Safety Data Sheets for all chemicals with which they come in contact. The manufacturer recommends the use of protective equipment when mixing and spraying this material. Protect skin with gloves and spray suits, wear safety glasses or goggles when mixing, and wear full hood fresh air fed respirator while spraying.

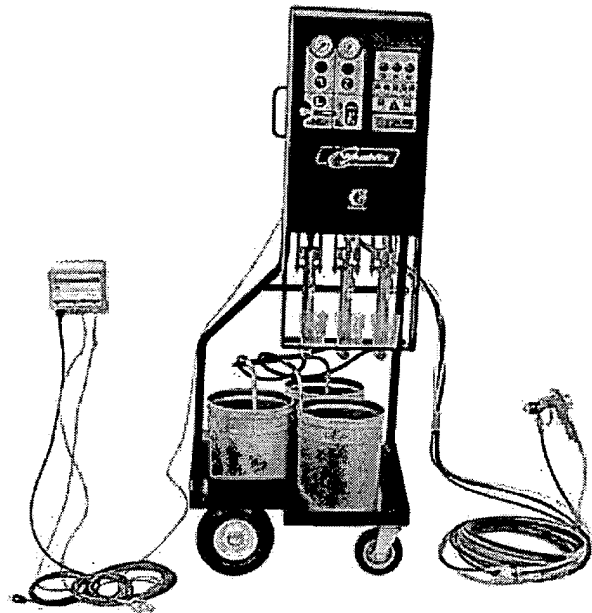


# ValueMix

Electronic Proportioner/Sprayer



- Ease of use
- Ratio assurance
- Excellent ROI
- Intrinsically safe
- 2K, 3K and batch dispense capability



Akzo Nobel and Graco Inc. have partnered together to introduce plural component technology to the collision repair industry.

The new plural component product is ValueMix, which allows painters to mix different combinations of primers or clearcoats with the turn of a dial.

ValueMix saves time and materials because it mixes paint materials automatically and delivers it to the spray gun. ValueMix replaces the manual premixing of plural component materials and reduces the cost of wasted paint and labor. It measures and mixes two- and three-component paint products accurately and reliably.

## Technical Specifications

- **Maximum fluid outlet pressure** ..... 100 psi (.07 MPa, 7 bar)
- **Maximum fluid inlet pressure** ..... 0 psi (gravity or siphon feed only)
- **Maximum solvent supply pressure** ..... 100 psi (.07 MPa, 7 bar)
- **Maximum working air pressure** ..... 85 psi (.06 MPa, 6 bar)
- **Air supply** ..... 10 micron (minimum) filtration required
- **Average air consumption**
- Air Spray ..... Gun: 15.0 scfm                      HVLP ..... Gun: 22.0 scfm
- 2.6 scfm                      Pump: 2.6 scfm                      Pump:
- Total: 17.6 scfm                      Total: 24.6
- scfm
- **Maximum air consumption**
- Air Spray ..... Gun: 15.0 scfm                      HVLP ..... Gun: 22.0 scfm
- 10.0 scfm                      Pump: 10.0 scfm                      Pump:
- Total: 25.0 scfm                      Total:
- 32.0 scfm
- **Mix ratio range** ..... 1:1 - 8:1
- **On-ratio accuracy** ..... ± 5%
- **Fluids handled** ..... One-, Two- or Three-component epoxy or polyurethane paints
- **Viscosity range of fluid** ..... 10 to 500 cps
- (max. for any individual component up to 50 seconds, Zahn #3)
- **Maximum fluid flow for 1 gun system** ..... 0.19 gpm (24 oz/min, 0.7 liter/min)
- **Wetted parts** ..... zinc plated carbon steel, anodized aluminum
- 303, 304 SST, 17-4 SST, Tungsten carbide
- (with nickel binder), Teflon®, CV75, Acetal
- **Hose material** ..... Nylon (A, C, S) and LDPE (B comp and suction)
- **Sound data\*\*\***
- Sound pressure level at 70 psi (.48 MPa, 4.8 bar) ..... 63.3 dBa
- Sound power at 70 psi (.48 MPa, 4.8 bar) ..... 64.8 dBa
- **Electrical Power Supply Requirements** ..... 95 to 264 V ac at 47 to

# Features

## Metering Pumps

- Accurately siphons and meters the paint from the pails to the mix tube
- Reliable pump lowers for proportioning 2 or 3 components

## Remote Power Supply

- Operate the sprayer in or near multiple booths with 50' of power cord.

## Breakthrough "Dial & Spray" Controls

- Easy to operate
- Dial selectable ratios
- Simple diagnostics to ensure on-ratio performance
- Optional ratio security lock out

## Sampling Valves

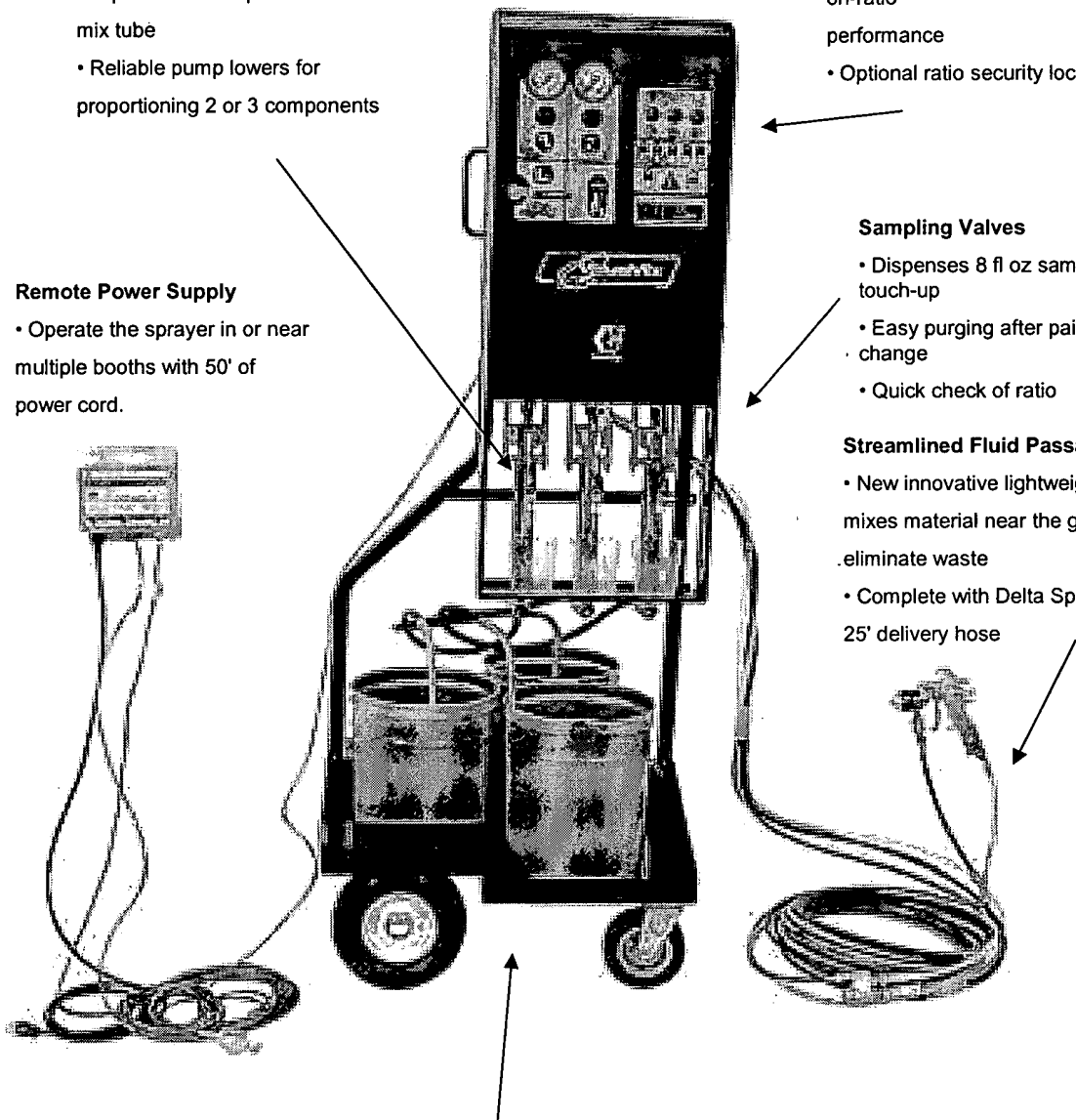
- Dispenses 8 fl oz samples for touch-up
- Easy purging after pail change
- Quick check of ratio

## Streamlined Fluid Passages

- New innovative lightweight integrator mixes material near the gun to eliminate waste
- Complete with Delta Spray guns and 25' delivery hose

## Packaged Complete

- 2 Ready-to-Spray package configurations available
- One primer package
- One clearcoat package



## **Package Contents**

**Clearcoat Package** – ready to spray package optimized for clearcoat applications includes stand (with 3-1/2" wheels) and base to hold up to four 5 gallon (18.9 liter) material containers, proportioner, control, siphon tubes, 35 ft hose assembly, integrator, 5-ft mixer hose and spray gun.

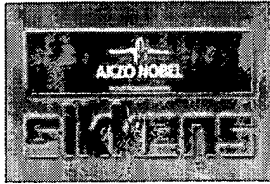
**244704** 3 pump proportioner with Delta HVLP Spray Gun

**Primer Package** – ready to spray package optimized for primer applications includes heavy duty cart and base to hold up to four 5 gallon (18.9 liter) material containers, proportioner, control, siphon tubes, 25 ft hose assembly, integrator, 5-ft mixer hose and spray gun.

**244705** 3 pump proportioner with Delta HVLP Spray Gun

# Return on Investment

Weekly Paint Use (Gallons)	12.5	11.25
Cost/Gallon	\$132	\$132
Total Paint Cost	\$1650	\$1485
<b>Paint Savings</b>		<b>\$165</b>
Solvent Use per Cleaning	.25	.125
Solvent Cost/Gallon	\$11.33	\$11.33
Cleanings/Week	50	40
Total Solvent Cost	\$141.63	\$56.65
<b>Solvent Savings</b>		<b>\$84.98</b>
Mix Time/week	4 hours	15 minutes
Cleaning Time/week	4 hours	30 minutes
Labor Rate	\$30	\$30
Labor Cost	\$240	\$22.50
<b>Labor Savings</b>		<b>\$217.50</b>
<b>Total Weekly Savings</b>		<b>\$467.48</b>
<b>Total Annual Savings</b>		<b>\$23,374</b>



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## Plural Component

[Back to ValueMix](#)

- Mixes paint at the gun
- Minimizes waste
- Eliminates mixing and cleaning time
- Offers varied products with the twist of a dial
- For use with clearcoats or primers

### **Sikkens Plural Component Paint Products**

Sikkens plural component paint products are specifically designed to take advantage of the flexibility of plural component equipment. This equipment allows the technician to change mixing ratios among three components simply by turning dials on the control panel. Sikkens has developed specially blended versions of its top selling primer and clearcoat to work with plural component equipment. Painters can enhance their productivity by quickly changing primer colors or clearcoat speeds.

### **Primer**



The Colorbuild PC assortment consists of three components: Black Colorbuild PC, White Color- build PC, and a Colorbuild PC Hardener. Each of these products is specially blended for use in plural component equipment. Their viscosities have been adjusted to allow easier pumping and stabilizing agents have been added to avoid pigment settling.

The advantage for the painter is the ability to easily change primer colors. By setting the proportioner controls, the technician can change from black Colorbuild to white Colorbuild or combine the two for shades of gray. Such flexibility allows multiple jobs with widely different primer colors to be sprayed using the same gun...all without stopping to clean the gun!

#### **Clearcoat**

The Autoclear PC package also has three components: Autoclear PC, Autoclear PC Production and Autoclear PC Hardener. Customers can expect the same great performance they have seen from a conventional gun with Autoclear PC.

Autoclear PC lets the painter easily change clearcoat

speeds depending on job size and conditions. The proportioner can deliver Autoclear PC for larger jobs that require premium appearance or Autoclear PC Production for smaller jobs or ones that require faster bake times. The painter can even "cocktail" Autoclear PC and Autoclear PC Production for a combination of speed and appearance.

To put Plural Component Technology to work for you, please find an office or distributor near you on the contact page.

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